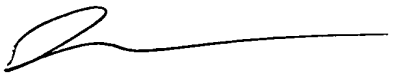
REMARKS

Claims 1-10 are pending in this application. By this amendment, the specification, claims 3-5 and drawings are amended. Claims 6-10 are new.

Should the examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Eric D. Morehouse
Registration No. 38,565

JAO:EDM/mlo

Attached: Abstract
Drawings

Date: October 15, 2004

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

ABSTRACT OF THE DISCLOSURE

A signal discriminator is provided which leverages variation of permittivity of Mn-Zn-based ferrite. The signal discriminator comprises a soft magnetic material which has a capacitive reactance C, and which has its complex relative permittivity varying with frequency such that the real part ~~ε1~~ ε' of the complex relative permittivity is large in a low frequency domain and small in a high frequency domain. In the reactance component X2, the capacitive reactance C is not negligible with respect to the inductive reactance L in a low frequency domain, in consequence of which the value of the reactance component X2 as a parallel circuit of the capacitive reactance C and the inductive reactance L is caused to decrease, and the influence of the capacitive reactance C is decreased in a high frequency domain. Consequently, the reactance component X2 decreases more than the reactance component X1 of a conventional soft magnetic material, and the X-R cross-point frequency moves to a frequency lower than a conventional X-R cross-point frequency XR1, whereby noises in a frequency band where noise components exist are converted into thermal energy thus reducing the waveform distortion originating from high frequency noises.